

REMARKS

After the foregoing amendment, claims 1-19 are pending in the application.

Applicants respectfully request additional consideration and review of the claims in view of the foregoing amendment and the following remarks.

Objections to the Specification

The Examiner has objected to the specification because the co-pending application number and filing date had not been provided. Applicant has responded to the objection by replacing the paragraph with a new paragraph showing the application number and filing date.

Claim Rejections Under 35 USC §102(e)

The Examiner has rejected claims 1-8 and 10-11 under 35 USC §102(e) as being anticipated by Elliott (U.S. 6,456,599 B1). Applicant has responded to this rejection by amending the claims.

The present invention is directed to a technique for routing the location of nodes within an ad-hoc wireless network. Applicants teach that each node identifies its own location with at least two coordinates. Once the location of nodes in the network is known, any node can store the location of other nodes and exchange the stored information with adjacent nodes. This important aspect of the invention is pointed out, for example, in independent claim 1 that states, "storing location information of other nodes of the network, wherein said location information comprises a global position represented by at least two coordinates ... ", and on page 5, lines 5-16 of Applicants' specification.

Turning now to the cited prior art, Elliott provides a method and apparatus for ad-hoc network node arrangements that gather information regarding neighboring nodes and distributes the information regarding the neighbors throughout the network. Elliott discloses nodes organized into groups called clusters. Periodically, so-called cluster heads broadcast a beacon message containing address or node-identifying information within the network to establish

its presence and availability as a cluster head, as pointed out in column 4, lines 34-48. However, contrary to Applicant's claim 1, Elliott teaches that nodes may identify themselves to one another based on their relationship to one another within the network. Such relationships are not "locations". Thus, it is respectfully submitted that even on this basis alone, Applicants' claims cannot be said to read on Elliott.

Moreover, even if the relationships among the various nodes in Elliott could be characterized as "locations", they are certainly not "a global position represented by at least two coordinates".

The Examiner has cited Elliott for storing link-state information, which includes the node identity, a node-specific sequence number, and a list of neighboring nodes to which a node has operational links. However, there is nothing in Elliott that shows or suggests that Elliott's link-state information includes coordinates represented by at least two dimensions to determine a node's location. Elliott makes no mention of a global position represented by at least two coordinates and it cannot be assumed from the patent that identifying a node by a global position represented by at least two coordinates is disclosed. Therefore, Elliott cannot be said to anticipate the above-noted recitations in claims 1-8 and 10-11.

In view of the foregoing, Applicants respectfully request that the rejection under 35 USC §102(e) be withdrawn.

Rejections Under 35 USC § 103(a)

The Examiner has rejected claim 9 under 35 USC §103(a) as being unpatentable over Elliott (U.S. 6,456,599 B1) in view of Rahul Jain et. al., "Geographical Routing Using Partial Information For Wireless Ad Hoc Networks", 20 December 1999. Applicants respectfully submit that the teachings in Jain provide no basis to conclude that a person of ordinary skill would think that a global positioning system could be used to facilitate Elliott's method of distributing information in an ad-hoc network.

First, the problems that the references address are so different that the teachings provide no motivation for the person of ordinary skill to combine these references. Elliott addresses the problem of how to distribute information on potential neighbor nodes to other nodes in an ad-hoc network so that the other nodes can select actual neighbors from the potential neighbor set. Jain, by contrast, addresses the problem of how to route packets from a source node to a destination node in an ad hoc network based on partial network information.

Second, as stated hereinabove, Elliott teaches that nodes may identify themselves to one another based on their relationship to one another within the network. Elliott does not teach that nodes identify themselves to one another based on their locations and the nodes in Elliott have no need to know their own location. Thus even if Jain rendered obvious the use of a global positioning system in any particular node in Elliott in order for the node to determine its location, there is no teaching in Jain providing a basis to conclude that a person of ordinary skill would think that such information should be transmitted to at least one other node, as claim 9 recites.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection of claim 9.

Claim Amendments

Claims 1, 3 - 6 and 8 - 11 have been amended to more clearly and particularly point out that which Applicants regard as the invention and to improve their form generally.

New Claims

New claims 12 – 19 have been added. These claims include limitations directed to topology and location information routing aspects of the invention and are submitted to be patentable.

Conclusion

In view of the foregoing amendments and remarks, Applicants submit that claims 1-19 are in condition for allowance, and reconsideration is therefore respectfully requested. If there are any outstanding issues that the Examiner feels may be resolved by way of a telephone conference, the Examiner is invited to contact the undersigned to resolve the issues.

Respectfully submitted,

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Date: 1/9/04

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